

IOWA STATE UNIVERSITY

OF SCIENCE AND TECHNOLOGY

College of Agriculture and Life Sciences
Experiment Station
138 Curtiss Hall
Ames, Iowa 50011-1050
515 294-2518
FAX 515 294-6800

January 3, 2008

US Environmental Protection Agency
Docket ID No.EPA-HQ-OW-2007-1126
EPA Docket Center (EPA/DC)
Water Docket, MC 2822T
1200 Pennsylvania Avenue, NW
Washington, DC 20460

RE: Comments on 2008 Gulf Hypoxia Action Plan, draft of November 9, 2007

As Dean of the College of Agriculture and Life Sciences at Iowa State University (ISU), I appreciate the opportunity to provide comments on the recent draft of the 2008 Gulf Hypoxia Action Plan. This plan is of considerable importance to water quality concerns in the Gulf of Mexico, as well as within the Corn Belt, including the state of Iowa. In addition, the actions proposed in the plan, depending on if and how they are implemented, can have a significant impact on Iowa agriculture and the Iowa public that we serve. For these reasons, I want to emphasize the seven points below, followed by a comment on increased resources for research and two additional concluding thoughts.

- Current water quality issues attributed to agriculture are not primarily due to mismanagement of nutrients in fertilizers and manures (although some improvement can and should be made), but are more the result of current cropping systems. Thus, there are currently few, if any, “win-win” situations.
- Achieving the very significant nitrogen and phosphorus loss reductions to water resources at the large watershed scale recommended in the reassessment (at least 45 percent each) will be very difficult and expensive. A recent ISU study, as reported in the Des Moines Register (January 2, 2008) for Iowa, “predicts it would cost \$613 million per year to cut farm-field phosphorus runoff by 40 percent and nitrates by 25 percent.” Therefore, the “additional resources for the development and implementation of state-level nutrient reductions strategies” as noted in the plan will be considerable.
- It may not be possible to meet the nutrient reduction goals with the current available technologies and the current cropping systems within the Corn Belt, especially given the current regulatory framework that makes the construction or reconstruction of wetlands for water quality improvement difficult. A special effort is being made in Iowa to develop a plan for altered regulations that could increase wetland construction that would have both environmental and economic benefits.
- The demands on agriculture for food, feed, fiber and energy, and the methods and economics of production to meet those demands, are in a constant state of change. These changes can have both positive and negative water quality consequences.

- Monitoring of producer practices, nutrient losses and fate, and water quality impacts (in particular, the temporal and spatial extent of hypoxia in the Gulf of Mexico) are critical in the proposed use of adaptive management in reducing the area of hypoxia. Yet funding and data are currently inadequate, with an expectation of decreased funding in the future.
- It is noteworthy that a more than 20 percent reduction in nitrogen loss did not result in a decrease in the hypoxic zone. Do we have the science to understand if a 45 percent nitrogen reduction will impact the hypoxic zone? And what will be the corresponding impact of the required reduced application rates on corn yields and farm profitability?
- Soil quality and sustainability are as important as water quality. Questions raised about the co-effects of management practices for nutrient loss reduction on soil quality need to be addressed. Of particular importance are the effects of nitrogen additions on levels of soil organic matter. This is an issue that has recently become more controversial.


Based on the points listed above, my hope for the revised Gulf Hypoxia Action Plan is for an increased emphasis on the need for significant new resources for research as well as for implementation and monitoring. With respect to research, the source of “new scientific findings” to be adapted, as noted in the plan, could come from the Upper Mississippi River Nutrient Environmental Research Center proposed by the ISU College of Agriculture and Life Sciences in conjunction with other land-grant universities in the Upper Mississippi River Basin. This center could provide answers to critical questions, and develop and test the technologies needed to achieve greater environmental stewardship for landscapes under both current and future cropping systems.

With respect to monitoring, even with increased funding, there is a concern that with the large spatial and temporal variations in weather, hydrologic and soil conditions, knowledge of cause-and-effect relationships still will not be strong enough for use with adaptive management. Care must be taken not to place too much promise in the adaptive management approach.

Finally, I would like to address the goal of reducing the running average of the Gulf hypoxic area to less than 5,000 square kilometers by the year 2015. I understand that the goal has been a difficult topic and has received considerable attention and discussion. My concern is with an optimistic goal and timeline that are neither realistic nor achievable and that may only serve to set up a scenario for disappointment and criticism. We need to be honest with ourselves and the public.

I hope the Hypoxia Task Force will consider these comments as the plan is revised and finalized. Again, thank you for the opportunity to have input to this important process and plan.

Sincerely,



Wendy Wintersteen, Ph.D., Dean
College of Agriculture and Life Sciences
Iowa State University